

# Work Order ID 82966

Thursday, April 12, 2012 9:58:15 AM

**\*82966\***

Page 1

Item ID: D4149-041 Accept **\*N9000040100\*** Setup Start **\*NS1\***  
 Revision ID: Stop **\*NS2\***  
 Item Name: Crosstube Lug Assembly, Aft  
 Start Date: 4/12/2012 Start Qty: 6.00 **\*6\*** Cust Item ID:  
 Required Date: 4/20/2012 Req'd Qty: 6.00 **\*6\*** Customer:  
 Reference:

Approvals: Process Plan: *[Signature]* Date: 12-04-12 Tooling: \_\_\_\_\_ Date: \_\_\_\_\_ Run Start **\*NR1\***  
 QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_ Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr								
D4149	C								
100		0.00							
<b>*100*</b>									
Small Fab	Memo	0.00							
Small Fab	1- Assemble as per dwg								
110	QC5- Inspect part completeness to step on W/O	0.00							
<b>*110*</b>									
QC	Memo	0.00							
Quality Control									
120	Identify as per dwg & Stock Location	0.00							
<b>*120*</b>									
Packaging	Memo	0.00							
Packaging									

*6x* *[Signature]* *12/04/12*

*(16)* *[Signature]*

*(6x)* *[Signature]* *12-04-12*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



W/O:		WORK ORDER CHANGES					
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

Thursday, April 12, 2012 9:58:19 AM

Page 1

Work Order ID: 82966

\*82966\*

Parent Item: D4149-041

\*D4149-041\*

Parent Item Name: Crosstube Lug Assembly, Aft

Start Date: 4/12/2012

Required Date: 4/20/2012

Start Qty: 6.00

Required Qty: 6.00

Comments: IPP Rev:A 10.06.24 new issue DD verf:EC  
IPP Rev:B 10.07.22 as per revB DD verf:JLM  
11.03.03 as per revC DD verf:JLM

IPP Rev:C

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

MS21043-3		Purchased				100	Each	1,400.000	4	12			
-----------	--	-----------	--	--	--	-----	------	-----------	---	----	--	--	--

\*MS21043-3\*

Nut

Location

Loc Qty

Loc Code

FG

72

103691

72

GA

184

120693

184

ST301

1144

118077

2

118614

96

118686

30

119758

20

121255

996

MS21043-4		Purchased				100	Each	1,679.000	1	18			
-----------	--	-----------	--	--	--	-----	------	-----------	---	----	--	--	--

\*MS21043-4\*

Nut

Location

Loc Qty

Loc Code

FG

40

104603

40

ST301

1639

119546

286

120308

353

121162

1000

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_  
 Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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# Picklist Print

Thursday, April 12, 2012 9:58:20 AM

Page 2

Work Order ID: 82966

\*82966\*

Parent Item: D4149-041

\*D4149-041\*

Parent Item Name: Crosstube Lug Assembly, Aft

Start Date: 4/12/2012

Required Date: 4/20/2012

Start Qty: 6.00

Required Qty: 6.00

D3910-1

Manufactured No

100 Each

16.0000

1

6

\*D3910-1\*

Crosstube Lug

\*\*

Location

Loc Qty

Loc Code

st507

16

81474

16

D4091-1

Manufactured No

100 Each

55.0000

1

6

\*D4091-1\*

Mounting Lug

\*\*

Location

Loc Qty

Loc Code

ST458

55

81168

30

81461

25

D4149-1

Manufactured No

100 Each

15.0000

2

12

\*D4149-1\*

Crosstube Lug Plate, Aft

\*\*

Location

Loc Qty

Loc Code

ST133

15

82121

15

D4149-3

Manufactured No

100 Each

7.0000

1

6

\*D4149-3\*

Spacer

\*\*

Location

Loc Qty

Loc Code

ST133

7

78046

7

Thursday, April 12, 2012 9:58:20 AM

Shop Packet Print

Page 2

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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**NOTE:** Date & initial all entries



# Picklist Print

Thursday, April 12, 2012 9:58:20 AM

Page 3

Work Order ID: 82966

**\*82966\***

Parent Item: D4149-041

**\*D4149-041\***

Parent Item Name: Crosstube Lug Assembly, Aft

Start Date: 4/12/2012

Required Date: 4/20/2012

Start Qty: 6.00

Required Qty: 6.00

D4149-5 Manufactured No

100 Each

6.0000

1

6

**\*D4149-5\***

Eyebolt Stud

\*\*

Location

Loc Qty

Loc Code

ST133

6

81403

6

AN3C12A

Purchased No

100 Each

227.0000

2

12

**\*AN3C12A\***

Bolts

\*\*

Location

Loc Qty

Loc Code

GA

40

120449

40

ST351

187

117514

4

118112

5

118451

22

119510

1

120423

155

AN4C13A

Purchased No

100 Each

87.0000

3

18

**\*AN4C13A\***

BOLT

\*\*

Location

Loc Qty

Loc Code

ST307

82

121166

82

ST357

5

120187

1

120423

4

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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Thursday, April 12, 2012 9:58:20 AM

Page 4

Work Order ID: 82966

Parent Item: D4149-041

Parent Item Name: Crosstube Lug Assembly, Aft

\*82966\*

\*D4149-041\*

Start Date: 4/12/2012

Required Date: 4/20/2012

Start Qty: 6.00

Required Qty: 6.00

MS20615-4M18

Purchased

No

100

Each

216.0000

3

18

**\*MS20615-4M18\***

Rivet

\*\*

*Ep 12/04/18*

Location

Loc Qty

Loc Code

322

100

121349

100

ST323

116

118543

116

NAS1149C0332R

Purchased

No

100

Each

2,781.000

4

24

**\*NAS1149C0332R\***

Washer

\*\*

*Ep 12/04/18*

Location

Loc Qty

Loc Code

ST297

257

119736

196

120648

61

ST298

2524

121255

2524

NAS1149C0432R

Purchased

No

100

Each

5,000.000

6

36

**\*NAS1149C0432R\***

Washer

\*\*

*Ep 12/04/18*

Location

Loc Qty

Loc Code

ST297

2000

117291

1000

119124

1000

ST298

3000

121255

3000

Thursday, April 12, 2012 9:58:20 AM

Shop Packet Print

Page 4

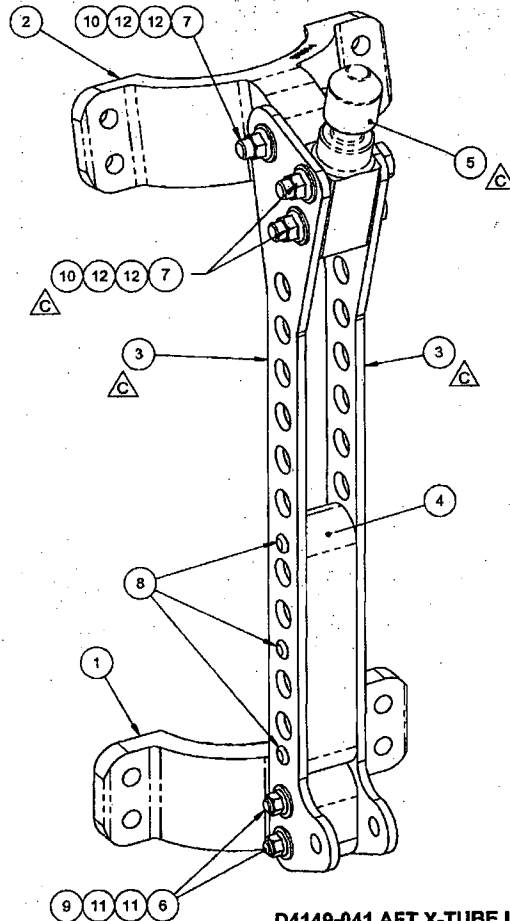
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



**D4149-041 AFT X-TUBE LUG ASSY**

**NOTES:**

- 1) MATERIAL: N/A
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D4149-041" USING FINE POINT PERMANENT INK MARKER
- 7) WEIGHT: 2.21 lbs

SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 82966

*PD/2-04-12*

ITEM	QTY -041	P/N	DESCRIPTION
	X	D4149-041	AFT X-TUBE LUG ASSY
1	1	D3910-1	X-TUBE LUG
2	1	D4091-1	MOUNTING LUG
3	2	D4149-1	AFT X-TUBE LUG PLATE
4	1	D4149-3	SPACER
5	1	D4149-5	EYEBOLT STUD
6	2	AN3C12A	BOLT
7	3	AN4C13A	BOLT
8	3	MS20815-4M18	RIVET
9	2	MS21043C3	NUT
10	3	MS21043C4	NUT
11	4	NAS1149C0332R	WASHER
12	6	NAS1149C0432R	WASHER

C	HOLE DIA CHANGED TO 0.252" (D8-3); HOLE DIA CHANGED TO 0.250" (C9-5); REPLACED QTY(2) AN3C12A, MS21043C3 AND QTY(4) NAS1149C0332R WITH QTY(2) AN4C13A, MS21043C4 AND QTY(4) NAS1149C0432R (D3-1, D7-2)	SC	11.02.22
B	MS20815-4M18 WAS MS20815-4M20 (ZN D3-1 & B7-2); ADDED D4149-5 (SHT 5); D4149-5 WAS D3909-5 (ZN D3-1 & D7-2); REPLACED QTY(3) MS20815-4M18 WITH QTY(2) EACH AN3C12A, MS21043-3 AND QTY(4) NAS1149C0332R WASHER (ZN D3-1, C7-1, B7-2 & B3-2); Ø0.191 2 PL REPLACES Ø0.129 3 PL (ZN D8-3); REASON: SEE TR-D350-907-2 REV. B.	MB	10.07.05
A	NEW ISSUE	MB	10.08.18
REV.	DESCRIPTION	BY	DATE
DESIGN	MB	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	SC		
CHECKED		DRAWING NO.	REV. C
MFG. APPR.		D4149	SHEET 1 OF 5
APPROVED		TITLE	SCALE
DE APPR.		AFT X-TUBE LUG ASSY	NTS
DATE	11.02.22	COPYRIGHT © 2016 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL, AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON OR WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

8

7

6

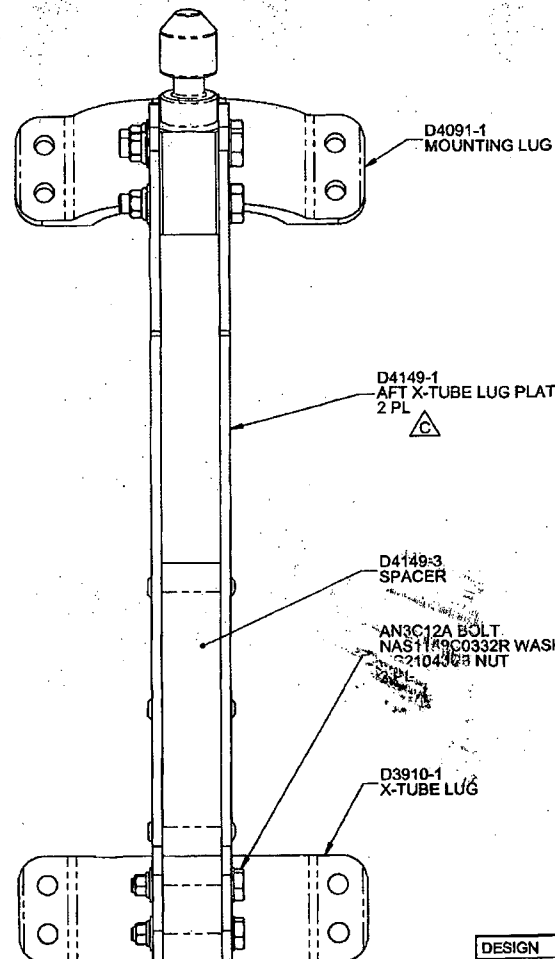
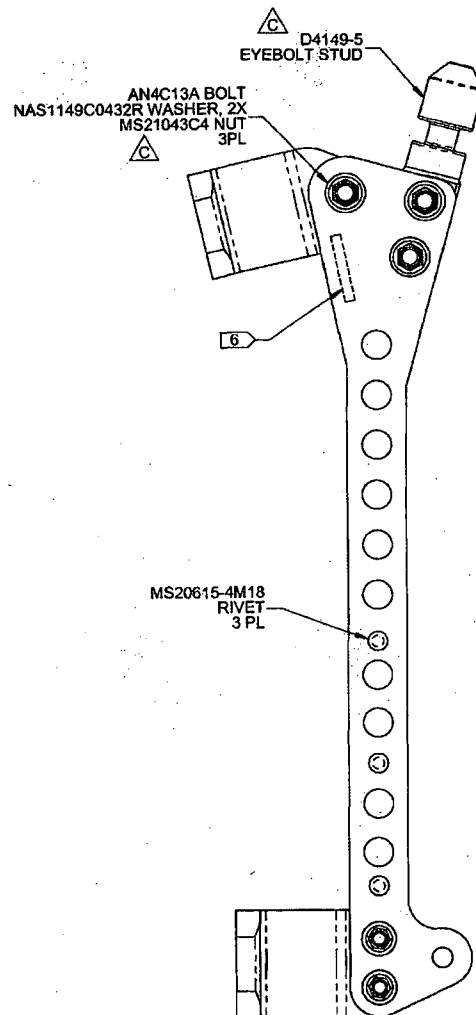
5

4

3

2

1



**D4149-041 AFT X-TUBE LUG ASSY**

82964

RELEASED  
2011-02-24

DESIGN	MB	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
DRAWN	SC		
CHECKED	h	DRAWING NO.	REV. C
MFG. APPR.		D4149	SHEET 2 OF 5
APPROVED		TITLE	SCALE
DE APPR.		AFT X-TUBE LUG ASSY	NTS
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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

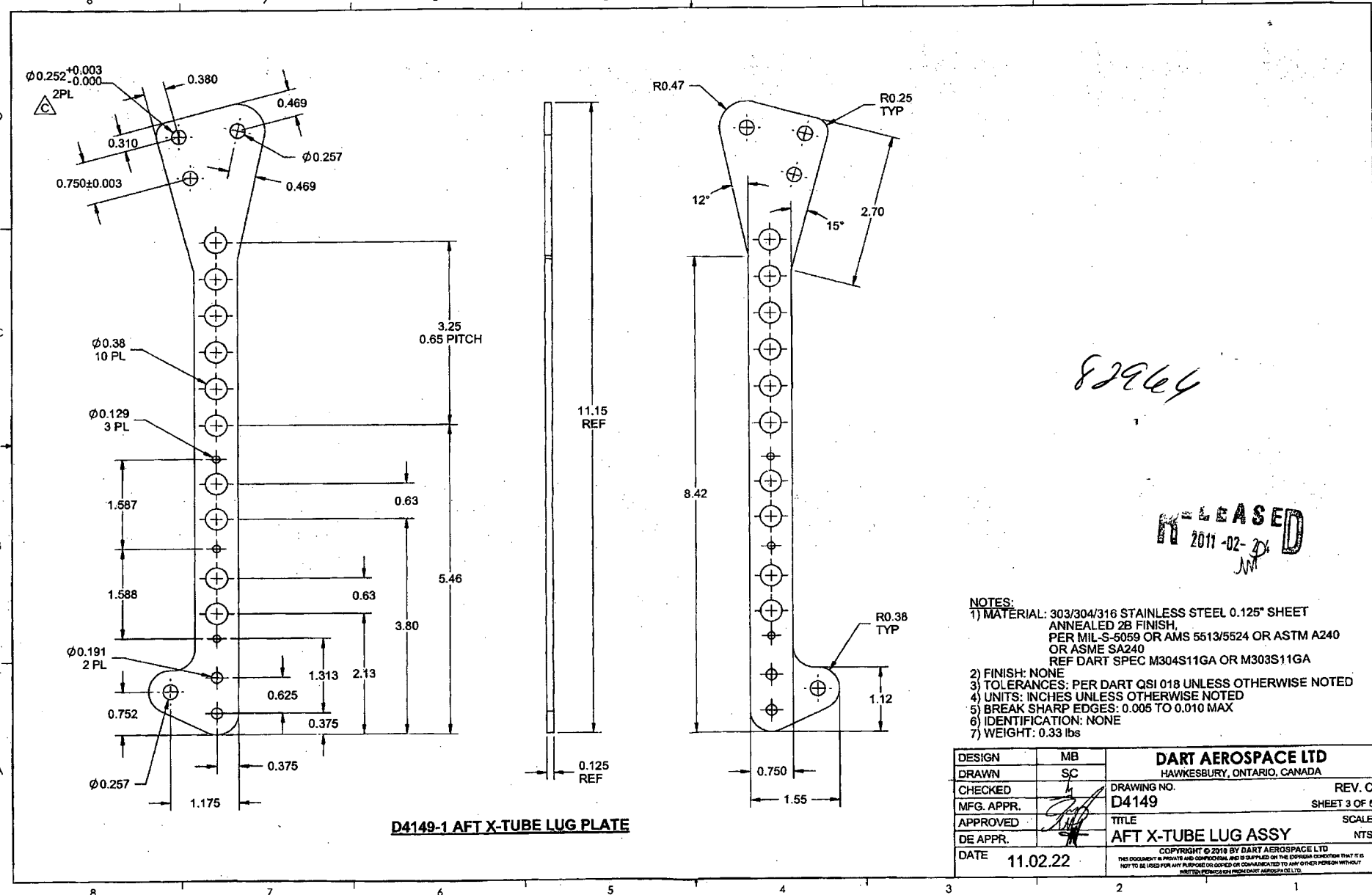
Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



NOTES:  
 1) MATERIAL: 303/304/316 STA  
 2) FINISH: NONE  
 3) TOLERANCES: PER DART SPEC  
 4) UNITS: INCHES ARE PER DART  
 5) BREAK ALL SHARP EDGES: 0.0  
 6) IDENTIFICATION: NONE  
 7) WEIGHT: 0.47 lbs



D4149-1 AFT X-TUBE LUG PLATE

Date

Dart Aerospace Ltd

PROCEDURE CHANGE

WORK ORDER CHANGES

By	Date	Qty	Ap Chief Eng Prod Mgr

NCR: Yes No DQA: Date: QA: N/C Closed: Date:

Fault Category: Disposition:

PAR #:

Resolution:

Part No:

WORK ORDER NON-CONFORMANCE (NCR)

Corrective Action  
Action Description  
Chief Eng

Section B

Sign & Date

Verification  
Section C

Approval  
Chief Eng

Approval  
QC Inspector

Description of NC  
Section A

Initial  
Chief Eng

NCR:

DATE STEP

NOTE: Date & initial all entries  
H:\FORMS\Quality Assurance\approved QANCRWO RevE

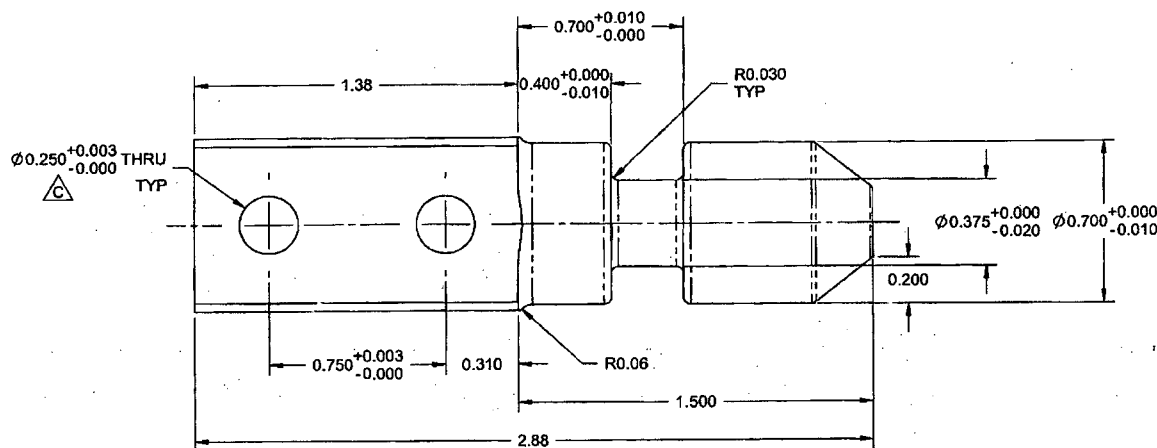
Part No:

NCR:

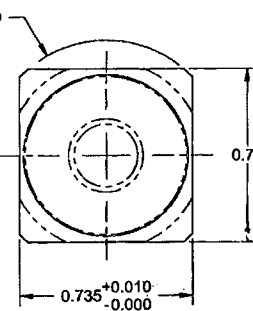
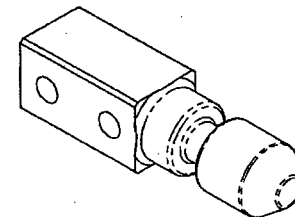
DATE STEP

NOTE: Date & initial all entries

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**D4149-5 EYEBOLT STUD**



82945

RELEASED  
2011-02-24

**NOTES:**

- 1) MATERIAL: 303/304/316 STAINLESS STEEL BAR PER ASTM A276 OR A582  
REF DART SPEC MS304B OR MS3033
- 2) FINISH: NONE
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK ALL SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D4149-5" USING FINE POINT PERMANENT INK MARKER
- 7) WEIGHT: 0.32 lbs

DESIGN	MB	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
DRAWN	SC		
CHECKED		DRAWING NO.	REV. C
MFG. APPR.		<b>D4149</b>	SHEET 5 OF 5
APPROVED		TITLE	SCALE
DE APPR.		<b>AFT X-TUBE LUG ASSY</b>	NTS
DATE	11.02.22	<small>COPYRIGHT © 2010 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>	

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Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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